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Journal of Learning Design

DESIGNING FOR EFFECTIVE LEARNING

REFLECTIONS AROUND ARTEFACTS: USING A DELIBERATIVE APPROACH TO TEACHING REFLECTIVE PRACTICES IN FASHION STUDIES

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Abstract

While requiring students to think reflectively is a desirable teaching goal, it is often fraught with complexity and is sometimes poorly implemented in higher education. In this paper, we describe an approach to academic reflective practices that fitted a design subject in fashion education and was perceived as effective in enhancing student learning outcomes. In many design-based disciplines, it is essential to evaluate, through a reflective lens, the quality of tangible design outcomes - referred to here as artefacts. Fashion studio based practice (unlike many other theory based disciplines) requires an artefact to be viewed in order to initiate the reflective process. This reflection is not solely limited to reflective writing; the reflection happens through sight, touch and other non-traditional approaches. Fashion students were asked to reflect before, during and after the development of an artefact. Through a variety of media, a review of the first garment prototype - called a Sample Review - occurred. The reflective practices of students during the Sample Review provided a valuable insight into their own learning, as well as a valid assessment indicator for the lecturer. It also mirrored industry practices for design evaluation. We believe that this deliberative approach, characterised by artefact-prompted reflection, has wide applicability across undergraduate courses in a variety of discipline areas.

Keywords

reflection, fashion studies, pedagogical pattern, higher education

Introduction

The purpose of this paper is to advocate a particular deliberative approach to the teaching of academic reflection within university subjects. Our case study involves second-year undergraduates in fashion studies who engaged in iterative design activities while reflecting on the processes involved. The teaching called for students to express their reflection in different and non-traditional modalities (such as performance and the use of networked media) but clustered

around the artefact that they were designing. This teaching approach has been formalised as a pedagogical pattern in order to abstract successful experience for re-use by other university teachers in different contexts. This case study fits within a broader university–wide initiative concerned with embedding academic reflection generally into undergraduate courses.

In this paper, we will explore some of the complexities associated with teaching academic reflection along with the value of representing successful practice in the form of a pedagogical pattern. The teaching practice and student outcomes associated with the case study will be described. Finally, we shall argue that the pedagogical pattern, called *Reflection Around Artefacts*, can be applied in diverse discipline areas, and especially where students are engaged in, and reflecting on the design of an artefact (such as an assignment that includes the making of a professionally-relevant product).

In the discussion that follows, the word "pattern" will have two distinct meanings. Because the case study is drawn from the fashion industry, patterns will be used to describe plans for garment creation. The second use will cover the formalised descriptions of teaching practice covered by the term pedagogical patterns.

Academic Reflection

Academic reflection, where students reveal their thinking around key ideas of a professional discipline is both a highly desirable yet elusive disposition for university teachers to cultivate. The term "academic reflection" is used here to differentiate it from broader cultural uses of the term reflection. Academic reflection is seen as a disciplined disposition ranging from relatively low-order skills (such as recounting) to critical, high-order capabilities such as reasoning (Bain, Ballantyne, Packer, & Mills, 1999; Carrington & Selva, 2010). Ryan and Ryan (2010) have further refined a scale for academic reflection by characterising just four levels suitable for student use (see Figure 1).

Level	Stage	Questions to get you started
1	**Reporting** and Responding	Report what happened or what the issue or incident involved. Why is it relevant? Respond to the incident or issue by making observations, expressing your opinion, or asking questions.
2	**Relating**	Relate or make a connection between the incident or issue and your own skills, professional experience, or discipline knowledge. Have I seen this before? Were the conditions the same or different? Do I have the skills and knowledge to deal with this? Explain.
3	**Reasoning**	Highlight in detail significant factors underlying the incident or issue. Explain and show why they are important to an understanding of the incident or issue. Refer to relevant theory and literature to support your reasoning. Consider different perspectives. How would a knowledgeable person perceive/handle this? What are the ethics involved?
4	**Reconstructing**	Reframe or reconstruct future practice or professional understanding. How would I deal with this next time? What might work and why? Are there different options? What might happen if...? Are my ideas supported by theory? Can I make changes to benefit others?

Figure 1. Student resource for academic reflection: The 4Rs scale

Rogers (2001) traced the theoretical development of the complex relationship between reflective thinking and learning from Dewey (1933) to more recent theorists such as Schön (1983) and Mezirow (1991). He noted confusion in terminology, differing frameworks and considerable variance in how reflection should be taught. More recently, Moon (2004) has taken a practical approach, detailing a variety of teaching methods that can be applied in university settings. In a more recent project, Ryan and Ryan (2010) proposed a strategic approach to embedding reflective teaching and assessment practices into undergraduate courses. A key component in their approach is the use of pedagogical patterns to establish and refine teaching across a wide community of higher education teachers.

Pedagogical patterns are highly structured, succinct descriptions of practice that can be made/used to enhance teaching within a community of educators. They are abstractions generated from successful experiences, with just enough detail added to enable replication and improvement. Goodyear (2006) argued that pedagogical patterns are particularly useful in representing, sharing and putting into practice, knowledge about educational design. Derived originally from architectural patterns (Alexander et al., 1977), these descriptions represent a bottom-up approach to educational design, since the patterns are derived from successful practice. This is in contrast to theory-led approaches, such as traditional instructional design, where practice is inferred from general principles. Pedagogical patterns are particularly powerful in setting up rich dialogues in professional teaching communities. Patterns do this by acting as a type of boundary object to carry meaning across a community (Starr & Griesemer, 1989).

Ryan and Ryan (2010) have collected a number of pedagogical patterns dealing with academic reflection across a range of academic disciplines that target different levels of reflection and require students to use varying modalities of expression. The *Reflections Around Artefacts* (RAA) pattern was originally set within the Fashion Studies discipline of a Creative Industries Faculty (see https://wiki.qut.edu.au/display/draw/Reflections+Around+Artefacts+(RAA). Being offered in

the second year, this subject targets higher levels of reflective abilities than is normally done in first year and where students are required to express their reflective thinking in verbal, audio-visual and performative modalities. All patterns are structured similarly, starting with a problem statement, contextual explanation around its solution and a recipe-like sequence that details the pedagogical solution. Further sections in a pattern may provide commentary, links to student products, exemplars and scholarly papers. These additional resources serve to complement the pattern (which some university teachers find too abstract) so that other people using it can modify it for their own conditions. A key section of a pattern, acknowledgement, provides information about who initiated and has tried/refined this pattern. It is from this section that rich professional dialogues can be initiated. Ryan and Ryan (2010) referred to the complete package (pattern plus supporting resources) as a pattern hub (see Figure 2).

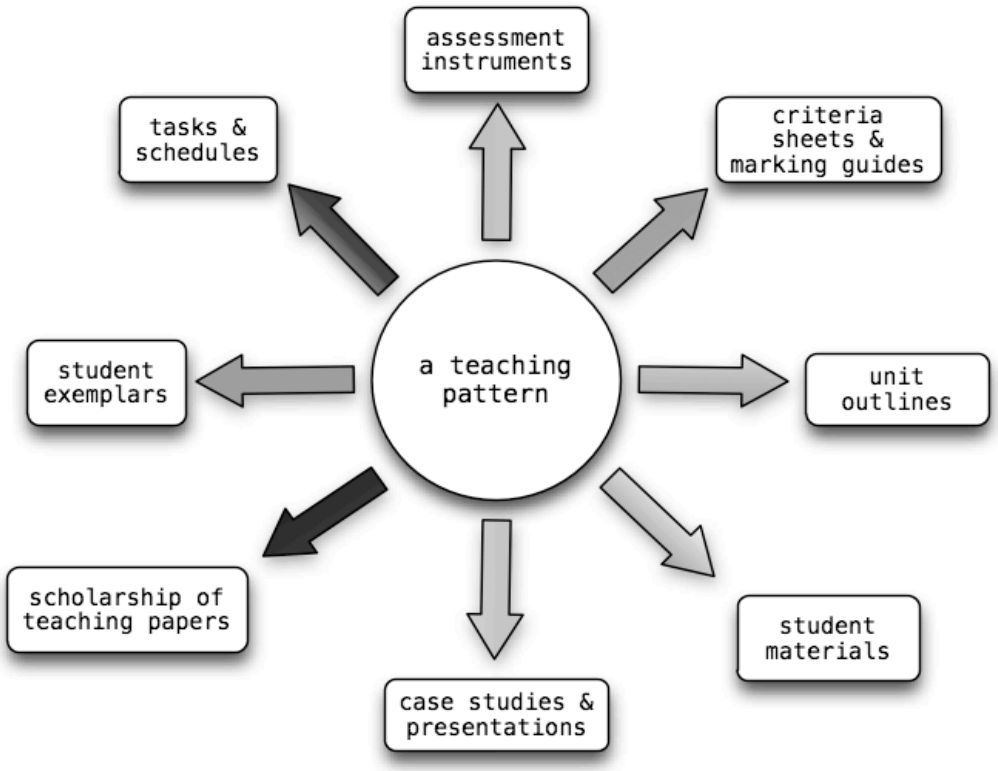

Figure 2. A pattern hub with example resources

As a package, Pattern Hubs are useful because they can provide different perspectives of teaching practice, combining both abstraction and utility. Abstraction allows a pattern to cross boundaries (including discipline divisions and course stages). The hub resources associated with the implementation of a pattern add utility because they contextualise the activity as well as suggesting concrete starting points for other university teachers. A lecturer from another discipline might adopt the pattern but adapt the resources. For example, a lecturer in Law might implement RAA by requiring students to construct of solicitor's letter as the artefact (rather than the design of a garment as in the case study reported here).

Reflection in Fashion Studies

From a design practitioner's perspective, the ability to critically reflect on processes, techniques and design outcomes is a pivotal element in the repertoire of skills for industry professionals. It forms a keystone for good design practice. Many practitioners with a wealth of experience have an innate, and at times an intangible, ability to scrutinise their work in progress and then intuitively tweak the product in order to seek quality design and technical outcomes. This crucial ability generally takes years of experience to hone and for some it remains an elusive goal. Indeed, as Lawson (2005) argued, if a designer fails to appropriately reflect on their process, it can lead to a failure to explore important design avenues.

In some design fields, such architecture, the ability to reflect and then change the design(s) as the building evolves is significantly hindered by the pragmatics of the construction process, long lead times from design to fruition, and by the need to adhere to approved plans. However, in the field of fashion design, designers can rapidly (relative to a number of other design fields) produce a first artefact, referred to as a sample or toile in the industry, and then reflect on the product and create subsequent iterations. For some complex garments, this process may require as many as ten or more enhanced versions until the designer is satisfied with the outcome. This approach allows for an elevated level of reflection as the designer (it may also include the pattern-maker and the sample machinist) can visually evaluate the changes required and then keep testing and honing improvements – design lines, fit, drape of the cloth, colour and silhouette – based on masterly practice or sometimes serendipitous experiment. Although as McKelvey and Munslow (2003) argued, some solutions to design problems are based on a tacit sense of knowing – it just feels "right."

This style of engagement in design practice requires introspection and questioning of action. The reflective space needs room for the designer to challenge customary norms. It is an iterative process of innovation through problem seeking and problem solving often using tacit reflection. For some, the reflective musings are less about problem seeking and more about being in an inner space of quandary based on the unknown and the unforeseen – a chance to play with a new response. This reflective process may also go beyond the evaluation of an artefact with the designer generally reflecting on their work relative to the wider domain of other practitioners in the field and the context of their work in the marketplace.

Paradoxically, even though reflective practices are the norm in the fashion design industry, in academic fashion studies the teaching of reflective skills is an area of limited discussion. As James (2006) proposed in her research at the London College of Fashion, fundamental questions need to be explored relating to the shape, purpose and effectiveness of reflective teaching in fashion studies, including non-textual reflective practices. Indeed, the ability to demonstrate coherent reflective practices, particularly in non-textual modes, is rarely assessed in fashion studies – in the main, the measure of quality being gauged on the merits of the final product and/or any supporting material that may accompany the work.

For fashion students, the ability to critically reflect on their work with reasoned reflection for iterative improvements is critical – reflection based on sound or informed reasons for possible future action: what needs improvement; why should the improvement occur; and, for some, how to go about the improvement. Even if the action is based around serendipitous outcomes, there should still be a level of awareness of reflective reasoning. The role of the educator is critical in cementing future industry practice for reflective action. As Hinds and Lyon (2011) proposed, for design professionals, the types of questions that are raised in response to their practice are often mirrored in the techniques that were taught in their disciplinary training.

In the teaching and assessment of reasoned reflective practices several questions are raised:

- The connection between knowledge of garment making and pattern engineering are inextricably aligned with the ability to successfully reflect on technical aspects of the

sample (artefact) that require further experimentation or enhancement. What if a student has a deficit in this area? Will this affect their ability to provide reasoned reflection, that is, informed and logical reflective thought based on sound garment knowledge – a reflective statement that goes beyond the comment of "I don't like it" ?

- Garment samples for complex or new styles are rarely successful in the first iteration. In educational contexts, it is seldom feasible to have the luxury of making numerous iterations, due to time constraints, fabric costs and assessment conditions. At what point does a student stop the iterative reflective process? Are there pragmatic and appropriate reasons or is it based on indifference or uninformed knowledge that may stop the development of subsequent samples?

- In fashioning samples, serendipity through experimentation can play a large part in successful garment outcomes – the unexpected design outcome(s) from playing with cloth on the mannequin or a mistake in the pattern process that may lead to new design ideas evolving. At what point does reasoned refection actually hinder this process and could too much informed refection actually stifle the design outcomes?

- The fashion lecturer plays a significant role in providing non-judgemental and supportive critique of the sample(s). At what point does the boundary blur between the student reflecting naively on their work and the lecturer providing informed advice – whose reflection is it?

In asking these questions, reflective processes need to be contextualised. In a UK study on student approaches to learning fashion design, Drew, Bailey and Shreeve (2002) proposed four key learning strategies for fashion students:

(i) *product-focussed*, with the intention to demonstrate technical skills;

(ii) *product-focussed*, with the intention to demonstrate design processes;

(iii) *process-focused*, with the intention to develop design processes; and

(iv) *concept-focussed*, with the intention to develop their own conceptions.

Each strategy, being neither distinct nor linear, allows students to digress from one strategy to another at times. It is noteworthy that the Drew, Bailey and Shreeve (2002) study was conducted on a small scale and there is limited research in learning strategies in fashion education.

Context of the pattern

In Design Studio units in the Bachelor of Fine Arts (Fashion) course at QUT (Queensland University of Technology, Australia) students have three critical stages for assessment:

Stage 1: *Design Selection* – an opportunity to present to a panel and peers a range of concept based designs with supporting research, with one or more designs selected (in consultation with the student) for sampling in Stage 2 and product realisation in Stage 3.

Stage 2: *Sample Review* – students present a sample garment (artefact) on a professional model and they reflect, with guidance from staff, on the areas for possible improvement on the sample

Stage 3: *Final Presentation* – the final resolved garment is presented to staff and peers

alongside any relevant supporting material.

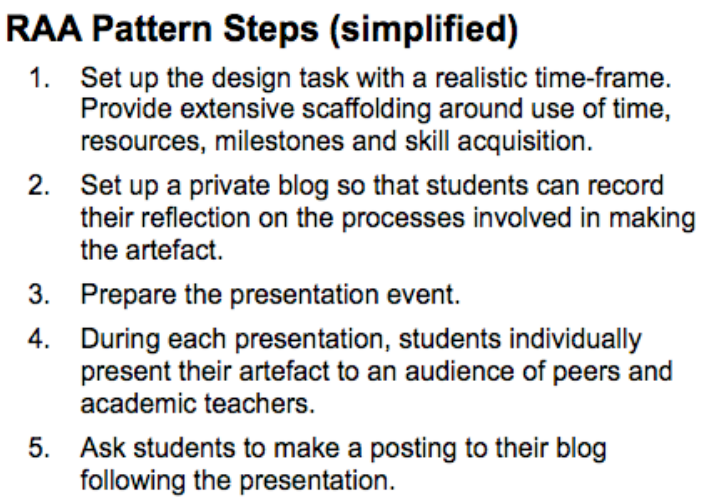

Figure 3. Reflection around artefacts (RAA) patterns steps (simplified)

This discussion will expand the Sample Review process with the use of reflection as embodied in the RAA pattern (see Figure 2), to enhance student learning in fashion design. In particular, the Sample Review process will be explored for second year students - a cohort size of approximately 30 students.

The *Sample Review* process (Stage 2), in essence replicates real world activities, as the majority of fashion designers have a point in their design process where they need to evaluate the quality of a garment sample. The first step of the RAA pattern necessitates a realistic timeframe for this process, so that students can engage in iterative design stages. There also needs to be a tangible artefact to see, touch and experience in order to initiate the reflection process. Aspects that are generally appraised for improvement at *Sample Review* can be divided into three main areas, that is, design, fit and fabrication. It can be argued that design is the more subjective area for improvement.

Historically the *Sample Review* process for second year Fashion students at QUT has been a valuable learning experience, but the student reflection on their sample was rarely captured, documented, or analysed and the level of reflection was generally teacher-led. This changed in 2009 when QUT fashion students were invited to be involved in a real-world project to design cutting edge swimwear, alongside key industry swimwear professionals, including renowned Australian labels such as *Zimmerman* and *Anna & Boy*. This project was also in conjunction with the Australian National Maritime Museum (ANMM) in Sydney and became a national touring exhibition in 2010.

As part of the project, a public blog was set up – linked to the ANMM site – that required students to progressively document the development of their swimsuit(s), from concept through to product fruition. The establishment of the blog represents the second step of the RAA pattern. In this case, the blog formed the key tool to document student reflection and the Sample Review point was an opportunity to capture critical thoughts on design development, fit and issues arising from construction. Students were encouraged to upload photographs and videos to the blog of their swimsuit(s) on a professional fit model (see Figure 4). Alongside this, they had accompanying textual reflective statements. The blog also acted as a tool for peer-to-peer critique and while this occurred on regular basis, the comments were normally positive in nature. Students were required to also develop a hand-written design journal with supporting images (original and sourced) to supplement the blog. Hard copy journals assist to build the suite of possible portfolio evidence and

many potential employers for design positions seek to view this material. As Gray and Malins (2004) argued, for design practitioners, reflective journaling provides a useful model to extend professionalism and to engage in better conversations.

Figure 4. A student-produced/uploaded image

The third step in the RAA pattern involves the preparation of a specific event where the artefact is presented to an audience of peers. In this case, it aligned with Stage 2, the *Sample Review,* an event where students were encouraged, and at times politely coerced, to analyse the garment and then comment on possible improvements for the next iteration. For many, this was captured in an audio format so they could replay the reflective analysis to subsequently alter the sample.

The different modalities of reflection, images, video, audio and text (blog and journal) allowed the student to capture their reflection in a non-traditional academic format. In the main, using the blog instigated very casual language for refection and this assisted in creating very open and honest dialogue, alongside supporting images of the sample. Although, as the blog was in the public domain, some students were still apprehensive about documenting reflections. The complementary use of the private hard copy journal helped to alleviate this issue.

In the last step of the RAA pattern, students reflect on the artefact and design processes after the event. Below is an extract from one of the blogs arising post Sample Review - comments were aligned to supporting images. The student reflects on both technical and aesthetic issues with the sample swimsuit:

> *Making a prototype of the swimsuit was useful to discover any mistakes and reflect on the design and fit ... I wasn't too sure about the pom-poms on the shoulders. I was scared it was going to look too 'crafty.' However, using different material to the traditional yarn-made ones created a look far from 'crafty.' There was the option of cutting lots of circles in the same fabric and making them sit up with starching spray, but I tried this and it didn't work ... I also figured that the bra cups were hideously small, so they needed to be enlarged by least one centimeter ... though I had to be mindful of the gathers bringing in the swimsuit too much...*

The following reflective comment from another student highlights the connection that was occurring not just with the semester's project but also with their overall learning in the course:

> *Of course I don't know whether any designer or student can be completely satisfied with their completed garment, because in our eyes nothing is ever really finished and could always be altered and improved. But in terms of my progress throughout this degree, there is no doubt I have improved in design and particularly my sewing skills. With each garment I make I can see that improvement and therefore [become] more capable of creating a garment that reflects the image in my head. Something else I realised while completing this project is that a slight consistency or theme present in all my past designs is emerging, suggesting that my own future design aesthetic is slowly forming to create my own design style.*

As the project was a real world activity, some aspects did not go to plan. Due to funding constraints, the ANMM changed elements of the project as it unfolded during the semester. However, the reflective comments in the QUT student experience survey for the unit indicated extremely high engagement with the project:

- *The challenge of something new and exciting, disregarding the things we have learnt in previous years and pushing students beyond their comfort zones. The development of new techniques in stretch fabric pattern matching cut and fit. The exposure is great incentive for all of us and has pushed us to achieve high standards in garment design.*

- *Students are learning industry relevant skills. It was a different unit to previous years, which is exciting! There are obvious type rewards - the museum deal is very motivating.*

From a staff perspective, the depth of reflective student analysis was very high in both text and non-textual modes. Subsequent iterations of the project could benefit from the integration of other pedagogical patterns (such as Fish Bowl Reflection or Second Order Reflection, available at https://wiki.qut.edu.au/display/draw/Home) to assist some learners to understand the different stages and levels of reflection. Other patterns may help to move students beyond (only) description and into the reflective action that is characteristic of experts in fashion design.

Discussion

Exemplary pedagogical practice in higher education often remains bound to and dependent on individual innovators. The practice described in the current case study might have remained inaccessible to teaching peers unless it had been represented as a pedagogical pattern. And with the resources included in the associated pattern hub, the practice has a good chance of spreading

more widely across the discipline boundaries found in all universities.

This process of using pattern hubs to carry good practice is particularly appropriate for generic skills and dispositions, in this case, reflective thinking. It is notoriously difficult to embed the development of these skills across a course because individual subject/unit designers are more focused on discipline content knowledge rather than difficult-to-teach generic skills. Pedagogical patterns such as RAA serve to highlight them by encouraging deliberative teaching design. They also provide a proven starting point for new and experienced university teachers alike. They encourage teachers to adopt a teaching method that they might otherwise perceive as too risky.

The Reflection Around Artefacts (RAA) pattern described in this paper is particularly interesting because it is centered around a vital but tacit process from professional practice in the fashion industry. For learners in this discipline setting, it is useful to deliberately expose and scaffold such reflective thinking. Later, as their expertise develops, reflection will remain as a key component in their design processes. Such an approach to learning design is not restricted to fashion industries. All undergraduate disciplines involve some element of design: where students engage in professional-like practice to create artefacts. These may include textual productions, models, plans, multimedia objects or even computer programs. In each case, reflection remains a key component as expertise develops after initial scaffolding such as the RAA pattern provides.

In conclusion, for many practitioners in design-based disciplines it is essential to evaluate, through a reflective lens, the tangible outcomes that arise during their practice. In fashion studio-based practice, an artefact is generally created and this needs to be viewed in order to initiate the reflective process. This reflection is not solely limited to textual expression - the reflection happens through non-textual means such as sight, touch and experiential means. The reflection may be in search of concrete answers to problems or it may initiate a journey of discovery with serendipitous outcomes. The reflective practices of students during Sample Review provided a valuable insight into their learning, as well as a valid assessment indicator for the lecturer. It also mirrored industry practices for design evaluation. This deliberative approach to creating an environment that was conducive to reflective analysis has wide applicability across undergraduate courses and is a transferable pattern to other discipline areas.

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